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## 1 INTRODUCTION

### 1.1 Overview

Visual representation of population analysis:

- Population records by types of countries
- Population trends over the years by sex
- Cities with highest average population
- Population by city type

### 1.2 Purpose

The outcome can be used to improve population control according to geographical regions, according to time period, sex ratio and urbanization.

## 2 PROBLEM DEFINITION AND DESIGN THINKING

### 2.1 Empathy Map

**Build empathy**  
The information you add here should be representative of the observations and research you've done about your users.

**Says**  
What have we heard them say?  
What can we imagine them saying?

This dramatic growth in population has been driven largely by increasing numbers of people surviving to reproductive age, the gradual increase in human lifespan, increasing urbanization, and accelerating migration. Major changes in fertility rate have accompanied this growth. These trends will have far-reaching implications for generations to come.

**Thinks**  
What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?

Population records by types of countries, population trends over the years, population trends over the years by sex, cities with highest average population, countries with highest average population, population by city type, population of cities by year.

**World population**

Introducing social, medical, biological and economical measures for population control by the government. Creating awareness among the people about the need of population control.

**Feels**  
What are their fears, frustrations, and anxieties? What other feelings might influence their behavior?

Need for Sustainable development, fear of lack of resources (natural and manmade), fear of environmental degradation, fear of economic recession, fear of depletion rate in the quality of life.

## 2.2 Ideation and brainstorming map

### 1 Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

**Problem:** Lack of Sustainable development, lack of resources(natural and manmade), environmental degradation, economic recession, depletion rate in the quality of life due to drastic population growth.

**Key rules of brainstorming**  
To run an smooth and productive session

- Stay in topic.
- Encourage wild ideas.
- Defer judgment.
- Listen to others.
- Go for volume.
- If possible, be visual.

### 2 Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

**Person 1**

Empowering young girls and women in matters concerning them, such as marriage and childbirth, is a major step in curbing population growth.

**Person 2**

Educated men and women acknowledge the hardships of having a large family and understand the consequences of the growing population.

**Person 3**

Government incentives and an efficient policy measure in fighting issues arising from population growth. Providing the working class with financial, educational, or even medical incentives can go a long way in controlling the birth rates.

**Person 4**

Apart from these, improving employment opportunities, and advancements in medical facilities, particularly in reproductive healthcare, can also help reduce the rate of population and solve the problem of population explosion in the country and beyond.

Person 5

Person 6

Person 7

Person 8

⌚ 20 minutes

Different countries have implemented various policies to manage population, which can be divided into two categories: pro-natalist and anti-natalist. Pro-natalist policies are implemented in countries with a low population that is insufficient to utilize available resources. These policies aim to increase the birth rate for various reasons, such as strengthening the army, increasing economic production, and enhancing national pride. Under these policies, childbirth is encouraged and abortions are discouraged. Parents or women who give birth may also receive additional social security benefits. Currently, Germany, Italy, Japan, Sweden, France, Singapore, the UK, and Hungary are following pro-natalist policies.

Anti-natalist policies, on the other hand, are implemented in countries with high populations and limited resources. These policies aim to reduce the birth rate through various means. They have taken both direct and indirect methods to control the population. Direct methods include the promotion of the use of contraceptives and abortions. Indirect methods include measures of women empowerment and promoting women employment so that they become more career-oriented and avoid giving birth to children. Countries that have adopted anti-natalist policies in the past include China and India.

**Minimum age of marriage**

**Raising the status of women**

**Spread of Education**

**Adoption**

**Social Security**

**More employment opportunities**

**Providing incentives**

**Medical Facilities**

**Legislative Actions**

**Spreading awareness**

### 3 RESULT

- Population has started to increase exponentially in the 21st century
- Female population has increased more than the male one
- Urban cities have more population than rural areas due to immigration
- Overall population has increased over the years



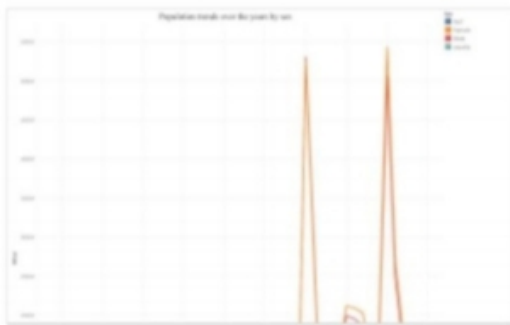
Sheet 1

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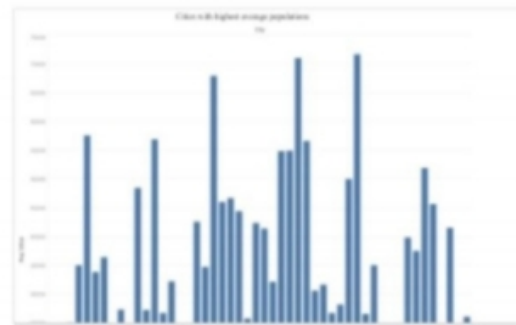
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Sheet 3

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Sheet 4

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- Reduction in global warming
- Reduction in poverty
- Mitigation of illegal actions

#### 4.2 Disadvantages

Interference with freedom and human rights

- Only effective if there is a global agreement
- Differences in countries' population structures
- Reduction in genetic diversity

## 5 APPLICATIONS

in all stages of the planning process for both new and revised plans. is needed to identify problems and community needs, and objectives, allocate resources for plan implementation, and evaluate the ability of the plan to achieve goals and objectives.

## 6 CONCLUSION

The global human population reached 8.0 billion in mid-November 2022 from an estimated 2.5 billion people in 1950, adding 1 billion people since 2010 and 2 billion since 1998. The world's population is expected to increase by nearly 2 billion persons in the next 30 years, from the current 8 billion to 9.7 billion in 2050 and could peak at nearly 10.4 billion in the mid-

2080s. This dramatic growth has been driven largely by increasing numbers of people surviving to reproductive age, the gradual increase in human lifespan, increasing urbanization, and accelerating migration. Major changes in fertility rate have accompanied this growth. These trends will have far-reaching implications for generations to come.

## **7 FUTURE SCOPE**

development is sustainable and inclusive. Achieving the Sustainable Development Goals, particularly those related to health, education and gender equality, can contribute to slowing global population growth.

- In countries with relatively high levels of fertility today, investments in education and health can significantly increase the positive but temporary economic impact of a favourable age distribution created by a sustained decline in fertility.
- More affluent countries bear the greatest responsibility for moving rapidly to achieve net-zero emissions of greenhouse gases and for implementing strategies to decouple human economic activity from environmental degradation.
- Wealthy countries and the international community can support low-income and lower-